

ABSTRACT OF THE DISCLOSURE

The nickel element is provided selectively, i.e., adjacent to part of the surface of an amorphous silicon film in a long and narrow opening. The amorphous silicon film is irradiated with linear infrared light beams emitted from respective linear infrared lamps while scanned with the linear beams perpendicularly to the longitudinal direction of the opening. The longitudinal direction of the linear beams are set coincident with that of the opening. The infrared light beams are absorbed by the silicon film mainly as thermal energy, whereby a negative temperature gradient is formed in the silicon film. The temperature gradient moves as the lamps are moved for the scanning. The direction of the negative temperature gradient is set coincident with the lamp movement direction and an intended crystal growth direction, which enables crystal growth to proceed parallel with a substrate uniformly over a long distance.